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MACPEACK & SEAS
2100 Pennsylvania Avenue, N.W.
Washington, DC 20037

EXAMINER

TORRES, JUAN A

ART UNIT	PAPER NUMBER
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2631

DATE MAILED: 01/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/870,843

Applicant(s)

YONEYAMA, YUZO

Examiner

Juan A. Torres

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3,5 and 7-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9 is/are allowed.
- 6) ☒ Claim(s) 3,5,7,8 and 10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments filed on 11/17/2005 have been fully considered but they are not persuasive.

Regarding claim 3:

The Applicant contends, "Meszko fails to provide controlling delay circuits on the basis of the comparison signal (OA page 3). Secondary reference, Igarashi fails to provide this deficiency; where Igarashi teaches averaging summed received signals to select a best signal quality from the available outputs. Meszko and Igarashi, either alone or in combination, fail to teach or suggest each and every element required by claim 3. At least for this deficiency, the rejection of claim 3 as being unpatentable over Meszko in view of Igarashi under 35 U.S.C. 103(a) should be withdrawn."

The Examiner disagrees and asserts, that, as indicated in the previous Office Action, Meszko discloses a delay amount control circuit for controlling said delay circuits on the basis of the comparison signal so that modulation timing of RF signals to be transmitted from said two transmission units are coincident to each other (figure 1 block 54, column 5 line 23-30 block 50 and 52, column 5 line 42-44).

The Applicant contends, "There is no motivation to employ noise compensation teachings (Igarashi) in control of delay units to obtain coincident emissions, required by claim 3. The Examiner's asserted motivation to combine the summing, averaging, and comparing taught by Igarashi with the transmitter taught by Meszko fails. At least for

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failing to provide a motivation to combine, the alleged unpatentability of claim 3 Meszko in view of Igarashi under 35 U.S.C. 103(a) should be withdrawn.”.

The Examiner disagrees and asserts, that, as indicated in the previous Office Action, Meszko and Igarashi are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine in the diversity transmitting circuit disclosed by Meszko the average and threshold control disclosed by Igarashi. The suggestion/motivation for doing so would have been to avoid fast variation due to noise and to smooth the transitions in the transmitter signal. Impulse noise will force errors. Averages (or smooth) the values will significantly reduce the residual noise and hence minimize estimation errors using a averaging or smoothing unit (see Kojima (US 4756023) column 3 lines 1-11, and 21-31; column 4 lines 10-14; and figure 5 block 10 to support this motivation). For these reasons and the reasons indicated in the previous Office Action the rejection of claim 3 is maintained.

Regarding claim 10:

The Applicant contends, “Claim 10 is asserted as being allowable at least by virtue of its dependence upon an allowable claim.”.

The Examiner disagrees and asserts, that, as indicated in the previous Office Action, claim 10 depends from claim 3 and claim 3 is a rejected claim. For these reasons and the reasons indicated in the previous Office Action the rejection of claim 10 is maintained.

Regarding claim 5:

Applicant's arguments with respect to claim 5 have been considered but are moot in view of the new ground(s) of rejection.

Regarding claim 7:

The Applicant contends, "Clearly Meszko fails to teach or disclose a delay unit between a frequency converter and an amplifier. Is a delay Turning to case law, we circuit between a frequency converter and an amplifier obvious? find that the particular placement of a contact in a conductivity measuring device was held to be an obvious matter of design choice (In re Kuhle, 526 F.2d 553, 188 USPQ 7 (CCPA 1975); MPEP 2144.04(V1)(C)). However, "The mere fact that a worker reference device to meet the terms of the claims [being rejected] is not by itself sufficient to support a finding of obviousness. The prior art must provide a motivation or reason for the worker in the art, without the benefit of appellant's specification, to make the necessary changes in the art could rearrange the parts of the in the reference device." (Ex parte Chicago Rawhide Mfg. Co., 223 USPQ 351, 353 (Bd. Pat. App. & Inter. 1984, MPEP 2144.04(VI)(C)). And therein the Examiner fails to make a prima facie case of obviousness. Meszko's Fig. 1 may suggest that the order of the filter, the upconverter, and the amplifier are interchangeable, however, the delay circuit is clearly shown and described as preceding all three (col. 3 line 41- col. 4 line 4). Meszko fails to suggest either in Figures or in the text that a delay circuit is provided between said frequency converter and said amplifier. At least for this deficiency, the rejection of claim 7 as being obvious over Meszko under 35 U.S.C. 103(a) should be withdrawn."

The Examiner disagrees and asserts, that, as indicated in the previous Office Action, the position of the delay element only makes a difference before or after the modulator. **The fact that it is before or after the amplifier will not modify the operation of the device and will not change the signal** this fact can be understood in figures 1 and 3 of Meszko because he includes the filter, upconverter and amplifier in one single block showing that it will not make any difference to delay the signal before the upconverter or between the upconverter and the amplifier (figure 1 blocks 50, 52, 56 and 58 column 3 lines 52-65). Then it would be obvious to put the delay element between the frequency converter and the amplifier.

In re Japikse, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950) (Claims to a hydraulic power press which read on the prior art except with regard to the position of the starting switch **were held unpatentable because shifting the position of the starting switch would not have modified the operation of the device.**).

For these reasons and the reasons indicated in the previous Office Action the rejection of claim 7 is maintained.

Regarding claim 8:

The Applicant contends, "Meszko fails to teach or suggest a delay circuit on the output side of the amplifier. In fact, Meszko arguably teaches away from the subject matter of claim 8 by teaching and disclosing a delay circuit on the input side of the amplifier. The prior art must provide a motivation or reason for the worker in the art, without the benefit of appellant's specification, to make the necessary changes in the reference device." Ex parte Chicago Rawhide Mfg. Co., 223 USPQ 351, 353 (Bd. Pat.

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App. & Inter. 1984; MPEP 2144.04(VI)(C)). Therein the Examiner fails to make a prima facie case of obviousness. Meszko fails to suggest either in Figures or in the text that a delay circuit is provided on the output side of said amplifier. At least for this deficiency, the rejection of claim 8 as being obvious over Meszko under 35 U.S.C. §103(a) should be withdrawn.”.

The Examiner disagrees and asserts, that, as indicated in the previous Office Action, the position of the delay element only makes a difference before or after the modulator. The fact that it is before or after the amplifier will not change the signal this fact can be understood in figures 1 and 3 of Meszko because he includes the filter, upconverter and amplifier in one single block showing that it will not make any difference to delay the signal before the upconverter or between the upconverter and the amplifier or after the amplifier. Figure 1 blocks 50, 52, 56 and 58 column 3 lines 52-65). Then it would be obvious to put the delay element at the output of the amplifier.

Meszko doesn't disclose that the delay circuit can not be placed at the output of the amplifier. For this reason Meszko doesn't teach away.

In re Japikse, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950) (Claims to a hydraulic power press which read on the prior art except with regard to the position of the starting switch **were held unpatentable because shifting the position of the starting switch would not have modified the operation of the device.**).

For these reasons and the reasons indicated in the previous Office Action the rejection of claim 8 is maintained.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meszko (US 6327299) in view of Igarashi (US 6466632 B1) (Affes (US 20020051433) paragraph [0306] used to support motivation).

As per claim 3, Meszko discloses a transmission diversity type transmitter comprising plural transmission units each transmission unit comprising a delay circuit for delaying a signal and a detector for detecting an RF signal which is based on the signal delayed by said delay circuit, the RF signal transmitting from each transmission unit (figure 1 blocks 50 and 52 blocks 56 and 58 and block 54); a comparator for receiving detection signals output from two detectors of two transmission units of said plural transmission units, comparing the detection signals and outputting a comparison signal (figure 1 block 54, column 5 line 23-30); and a delay amount control circuit for controlling said delay circuits on the basis of the comparison signal so that modulation timing of RF signals to be transmitted from said two transmission units are coincident to each other whereby the difference in delay time between said two transmission units is converged to a permissible and acceptable value range (figure 1 block 54, column 5 line 23-30 block 50 and 52, column 5 line 42-44). Meszko doesn't specifically disclose that the delay amount control circuit calculates average amplitude of the comparison signal

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output from said comparator, and controls said delay circuits so that the average amplitude is equal to or lower than a threshold value. It is very well known the use of a average circuit (usually as a low pass filter) and a threshold comparator to avoid fast transitions and Igarashi discloses a delay amount control circuit calculates an average amplitude of the comparison signal output from said comparator, and controls said delay circuits so that the average amplitude is equal to or lower than a threshold value, (figure 16 column 15 line 40 to column 16 line 29). Meszko and Igarashi are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine in the diversity transmitting circuit disclosed by Meszko the average and threshold control disclosed by Igarashi. The suggestion/motivation for doing so would have been to avoid fast variation due to noise and to smooth the transitions in the transmitter signal (see Kojima (US 4756023) column 3 lines 1-11, and 21-31; column 4 lines 10-14; and figure 5 block 10 to support this motivation). Therefore, it would have been obvious to combine Meszko with Igarashi to obtain the invention as specified in claim 3.

As per claim 10, Meszko and Igarashi disclose claim 3. Igarashi also discloses that the value range to which the difference in delay time between said two transmission units is converged is specified (figure 16 block 305 column 15 line 40 to column 16 line 29). Meszko and Igarashi are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine in the diversity transmitting circuit disclosed by Meszko the average and threshold control disclosed by Igarashi. The

suggestion/motivation for doing so would have been to avoid fast variation due to noise and to smooth the transitions in the transmitter signal. Therefore, it would have been obvious to combine Meszko with Igarashi to obtain the invention as specified in claim 10.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Meszko (US 6327299) in view of Saito (US 5943362 A) (Ikegami (US 4849990 A) abstract used to support motivation). Meszko discloses a transmission diversity type transmitter comprising plural transmission units each transmission unit comprising a delay circuit for delaying a signal and a detector for detecting an RF signal which is based on the signal delayed by said delay circuit, an RF signal transmitting from each transmission unit (figure 1 blocks 50 and 52 blocks 56 and 58 and block 54); a comparator for receiving detection signals output from a two detectors of a two corresponding transmission units of said plural transmission units comparing the two detection signals and outputting a comparison signal (figure 1 block 54, column 5 line 23-30); and a delay amount control circuit for controlling a two corresponding delay circuits on the basis of the comparison signal so that modulation timing of RF signals to be transmitted from said two transmission units are coincident to each others (figure 1 block 54, column 5 line 23-30 block 50 and 52, column 5 line 42-44), wherein each of said plural transmission units further comprises a modulator, a frequency converter and an amplifier (figure 1 blocks 22-48, and 56-58, column 2 line 50 to column 3 line 65). Meszko doesn't disclose that the delay circuit is provided at the input side of the two modulators and where a delay circuit is provided at the input of each demodulator. Saito

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discloses that the delay circuit is provided at the input side of the two modulators and where a delay circuit is provided at the input of each demodulator (figure 8 blocks 531 and 532 with 54 column 10 lines 37-42). Meszko and Saito are analogous art because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine in the diversity transmitting circuit disclosed by Meszko the delaying before modulation disclosed by Saito, changing the location of the two delay elements from the place indicated by Meszko to the place indicated by Saito, and where a delay circuit is provided at the input of each demodulator. The suggestion/motivation for doing so would have been to improve the Bit Error Rate (Ikegami abstract). Therefore, it would have been obvious to combine Meszko with Saito, using Ikegami for motivation to obtain the invention as specified in claim 5.

Claims 5, 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meszko (US 6327299).

As per claim 5, Meszko discloses a transmission diversity type transmitter comprising plural transmission units each transmission unit comprising a delay circuit for delaying a signal and a detector for detecting an RF signal which is based on the signal delayed by the delay circuit, the RF signal transmitting from each transmission unit (figure 1 blocks 50 and 52 blocks 56 and 58 and block 54); a comparator for receiving detection signals output from two detectors of two transmission units of the plural transmission units comparing the detection signals and outputting a comparison signal (figure 1 block 54, column 5 line 23-30); and a delay amount control circuit for

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controlling the delay circuits on the basis of the comparison signal so that modulation timing of R.F signals to be transmitted from the two transmission units are coincident to each others (figure 1 block 54, column 5 line 23-30 block 50 and 52, column 5 line 42-44), wherein each of the plural transmission units further comprises a modulator, a frequency converter and an amplifier (figure 1 blocks 22-48, and 56-58, column 2 line 50 to column 3 line 65), where each of the plural transmission units further comprises a modulator, a frequency converter and an amplifier, and the delay circuit is provided at the input of the modulator (The fact that the delay element is before the modulator will not modified the operation of the device). Then it would be obvious to put the delay element before the modulator.

As per claim 7, Meszko discloses a transmission diversity type transmitter comprising plural transmission units each transmission unit comprising a delay circuit for delaying a signal and a detector for detecting an RF signal which is based on the signal delayed by the delay circuit, the RF signal transmitting from each transmission unit (figure 1 blocks 50 and 52 blocks 56 and 58 and block 54); a comparator for receiving detection signals output from two detectors of two transmission units of the plural transmission units comparing the detection signals and outputting a comparison signal (figure 1 block 54, column 5 line 23-30); and a delay amount control circuit for controlling the delay circuits on the basis of the comparison signal so that modulation timing of R.F signals to be transmitted from the two transmission units are coincident to each others (figure 1 block 54, column 5 line 23-30 block 50 and 52, column 5 line 42-44), wherein each of the plural transmission units further comprises a modulator, a

frequency converter and an amplifier (figure 1 blocks 22-48, and 56-58, column 2 line 50 to column 3 line 65), where each of the plural transmission units further comprises a modulator, a frequency converter and an amplifier, and the delay circuit is provided between the frequency converter and the amplifier (The fact that the delay element is before or after the amplifier will not modify the operation of the device). Then it would be obvious to put the delay element between the frequency converter and the amplifier.

As per claim 8, Meszko discloses a transmission diversity type transmitter comprising plural transmission units each transmission unit comprising a delay circuit for delaying a signal and a detector for detecting an RF signal which is based on the signal delayed by the delay circuit, the RF signal transmitting from each transmission unit (figure 1 blocks 50 and 52 blocks 56 and 58 and block 54); a comparator for receiving detection signals output from two detectors of two transmission units of the plural transmission units comparing the detection signals and outputting a comparison signal (figure 1 block 54, column 5 line 23-30); and a delay amount control circuit for controlling the delay circuits on the basis of the comparison signal so that modulation timing of R.F signals to be transmitted from the two transmission units are coincident to each others (figure 1 block 54, column 5 line 23-30 block 50 and 52, column 5 line 42-44), wherein each of the plural transmission units further comprises a modulator, a frequency converter and an amplifier (figure 1 blocks 22-48, and 56-58, column 2 line 50 to column 3 line 65), where each of the plural transmission units further comprises a modulator, a frequency converter and an amplifier, and the delay circuit is provided at the output of the amplifier (The fact that it is before or after the amplifier will not modified

the operation of the device). Then it would be obvious to put the delay element at the output of the amplifier.

Allowable Subject Matter

Claim 9 is allowable.

The following is an examiner's statement of reasons for allowance: claim 9 is allowed because the references cited fail to teach, as applicant has a delay amount control circuit for controlling the delay circuits of the two transmission units on the basis of the comparison signal output from the comparator so that the modulation timing is coincident at transmission output terminals of the two transmission units where the base band signal is subjected to ON/OFF control, the rising timing and falling timing of the detection output when the ON/OFF control is carried out are compared with each other by the comparator, and the delay circuits are controlled by the delay amount control circuit so that the difference between the rising timing and the falling timing is within a permissible time range, as the applicant has claimed.

Conclusion

Applicant's amendment filed on 11/17/2005 necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juan A. Torres whose telephone number is (571) 272-3119. The examiner can normally be reached on Monday-Friday 9:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H. Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Juan Alberto Torres
01-17-2006


KEVIN BURD
PRIMARY EXAMINER